

The High Latitude Satellite Proving Ground and Wildfires in Alaska

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Outline

- What is the High Latitude Satellite Proving Ground?
- What new(ish) satellite products are available which are useful in addressing wildfires in Alaska

The High Latitude Proving Ground (HLPG)

- New weather satellites with new instruments are being launched.
- The HLPG brings together NOAA, NASA, University of Alaska, and users such as National Weather Service and the fire community

The High Latitude Proving Ground (HLPG)

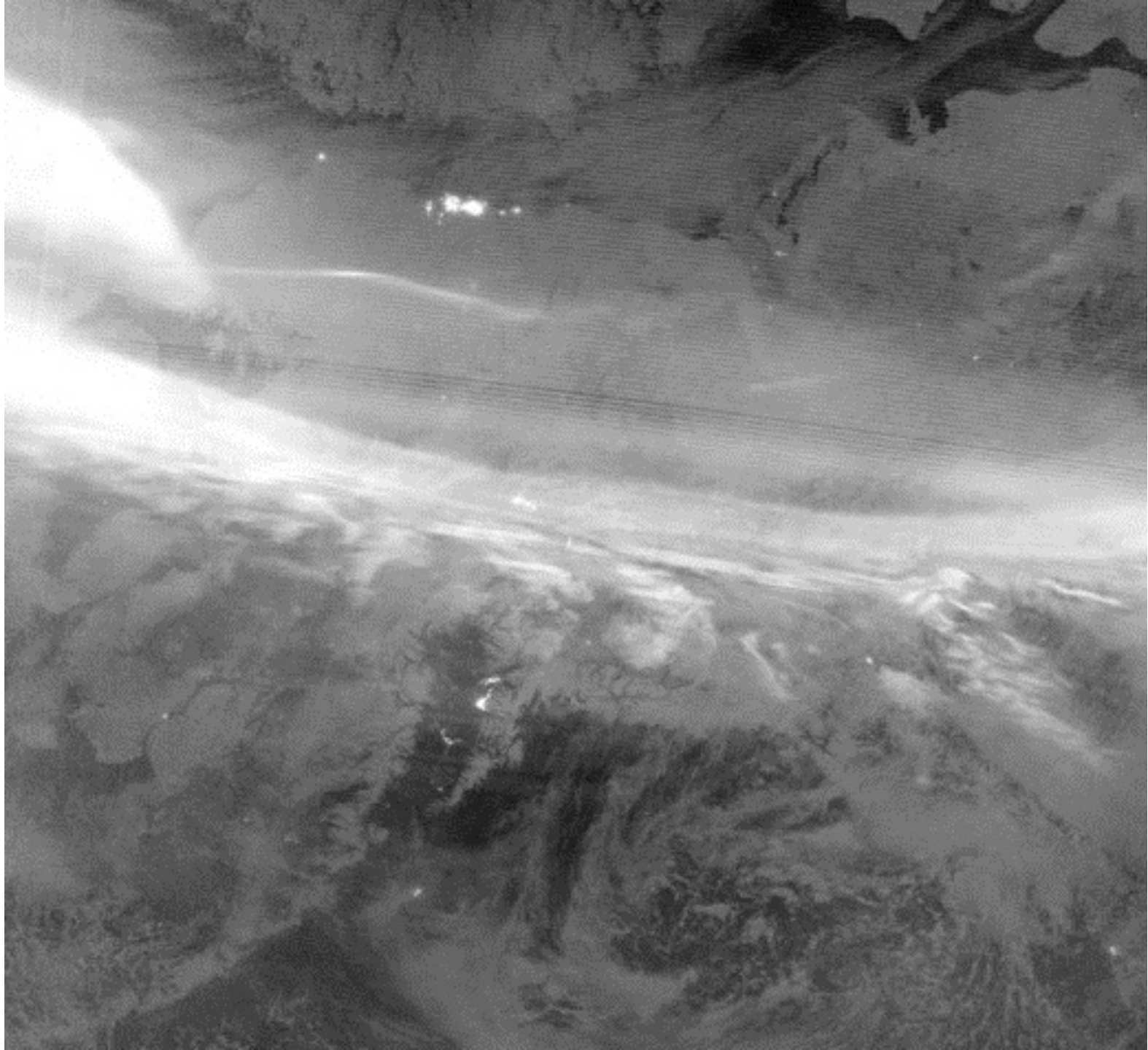
- The Approach
 - UAF and NOAA (at Gilmore Creek) receive raw data from satellites as they fly over Alaska
 - UAF and NOAA process the raw data to generate useful satellite products
 - Resulting products are distributed to users in Alaska via websites and NWS infrastructure

The High Latitude Proving Ground (HLPG)

- Goal is to deliver cutting-edge satellite products to users in Alaska with minimal latency
- Challenges
 - Infrastructure
 - Research: learning how to make the most of these amazing instruments
 - Training (some products are non-intuitive at first)
- The future is bright: more satellites, better bandwidth are coming

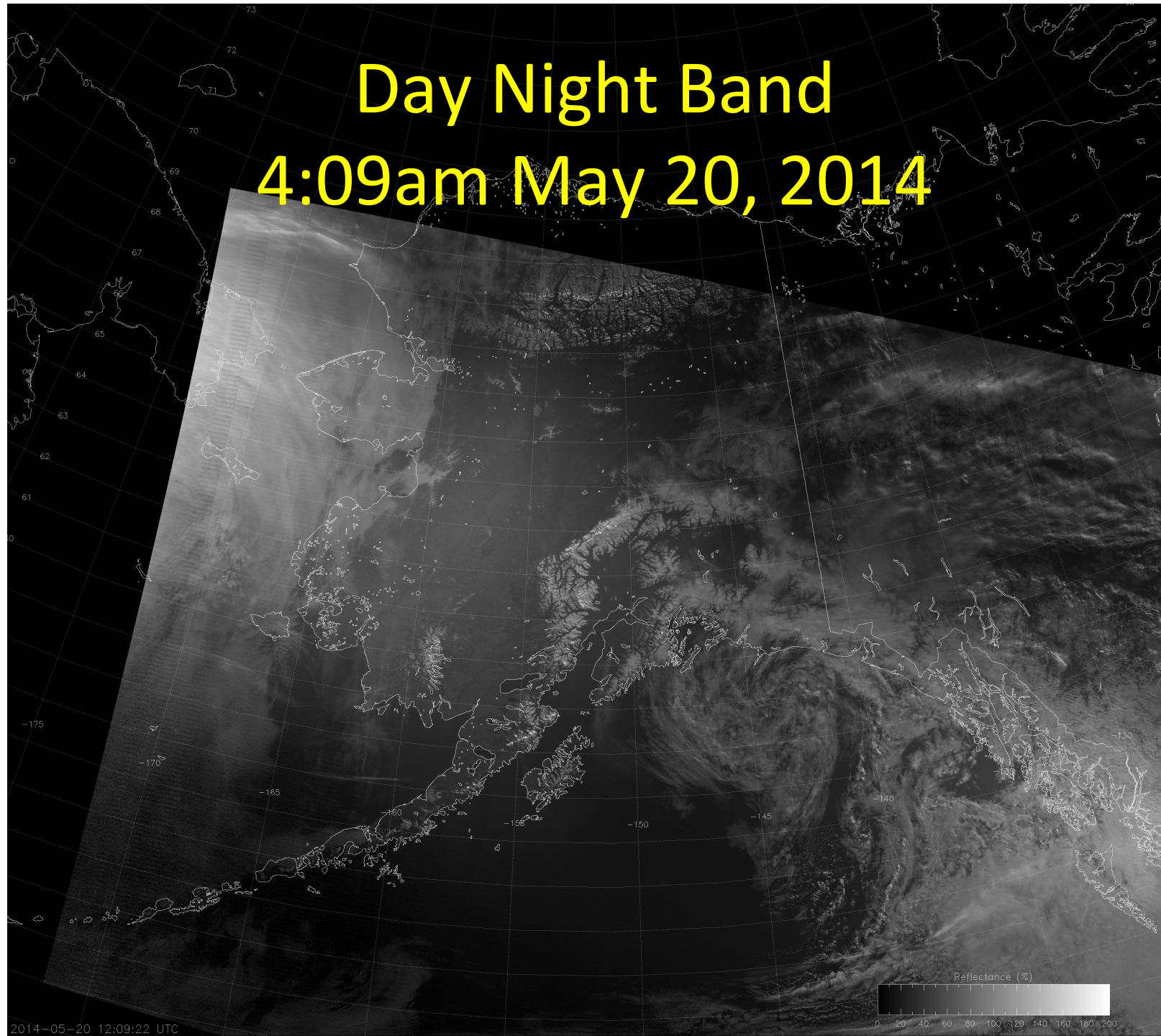
Examples from the Funny River Fire

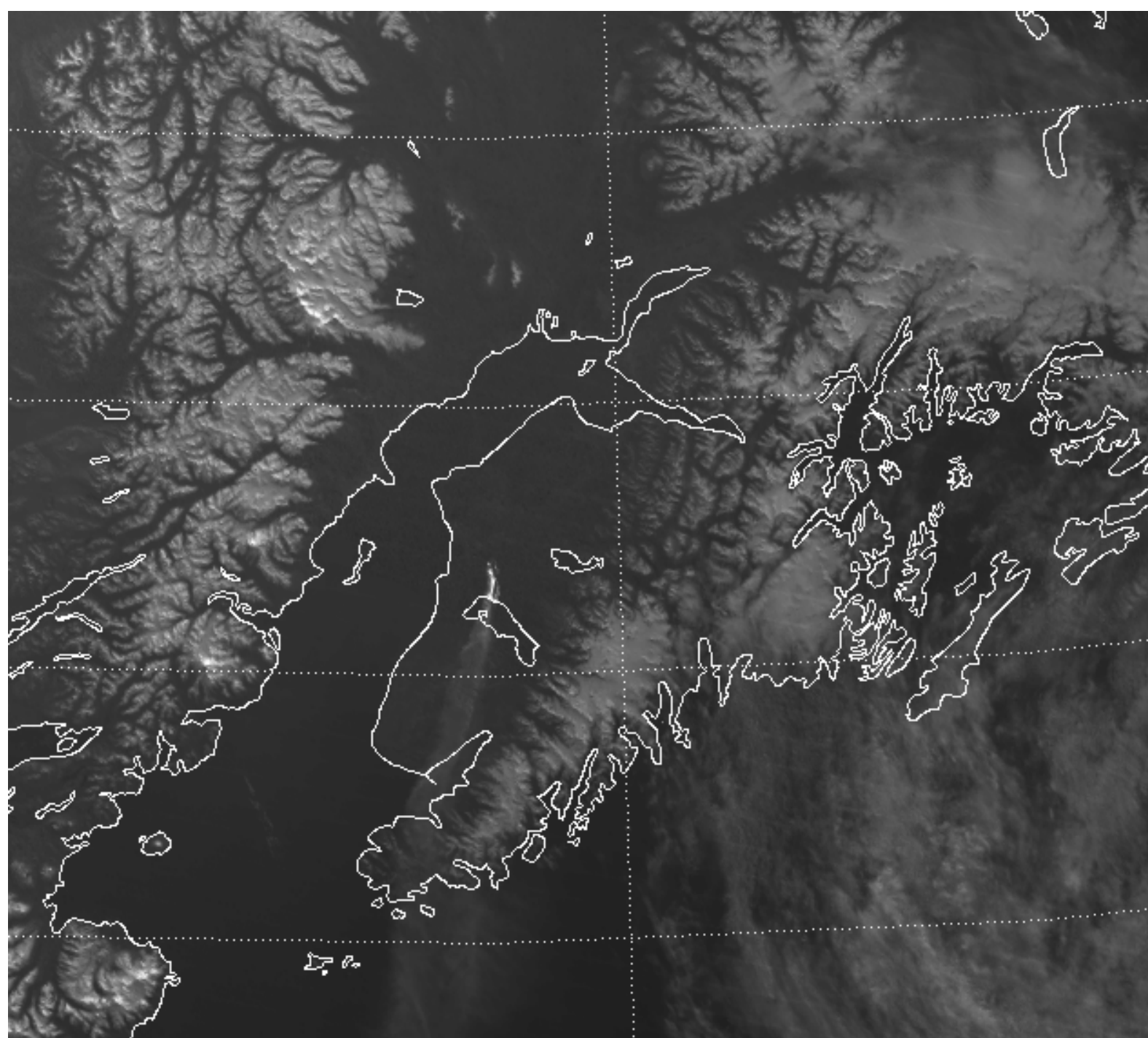
- Day Night Band ($0.7\mu\text{m}$)
- Fire Detection Channel ($3.7\mu\text{m}$)
- Channel composites, or “RGBs”
 - “True Color” composite ($0.48, 0.55, 0.67\mu\text{m}$)
 - “Fire Temperature” composite ($1.6, 2.2, 3.7\mu\text{m}$)

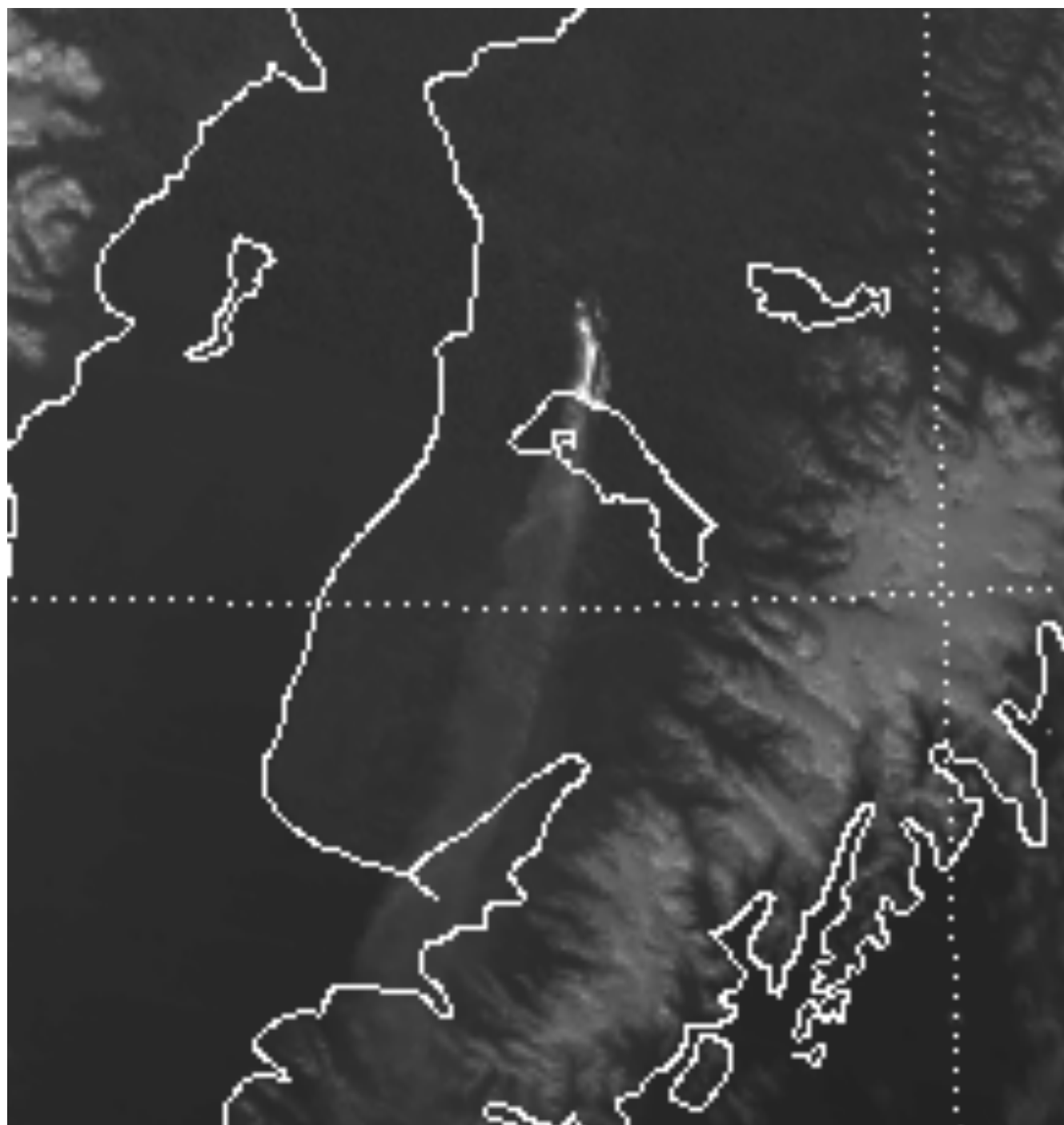


Day Night Band

4:09am May 20, 2014

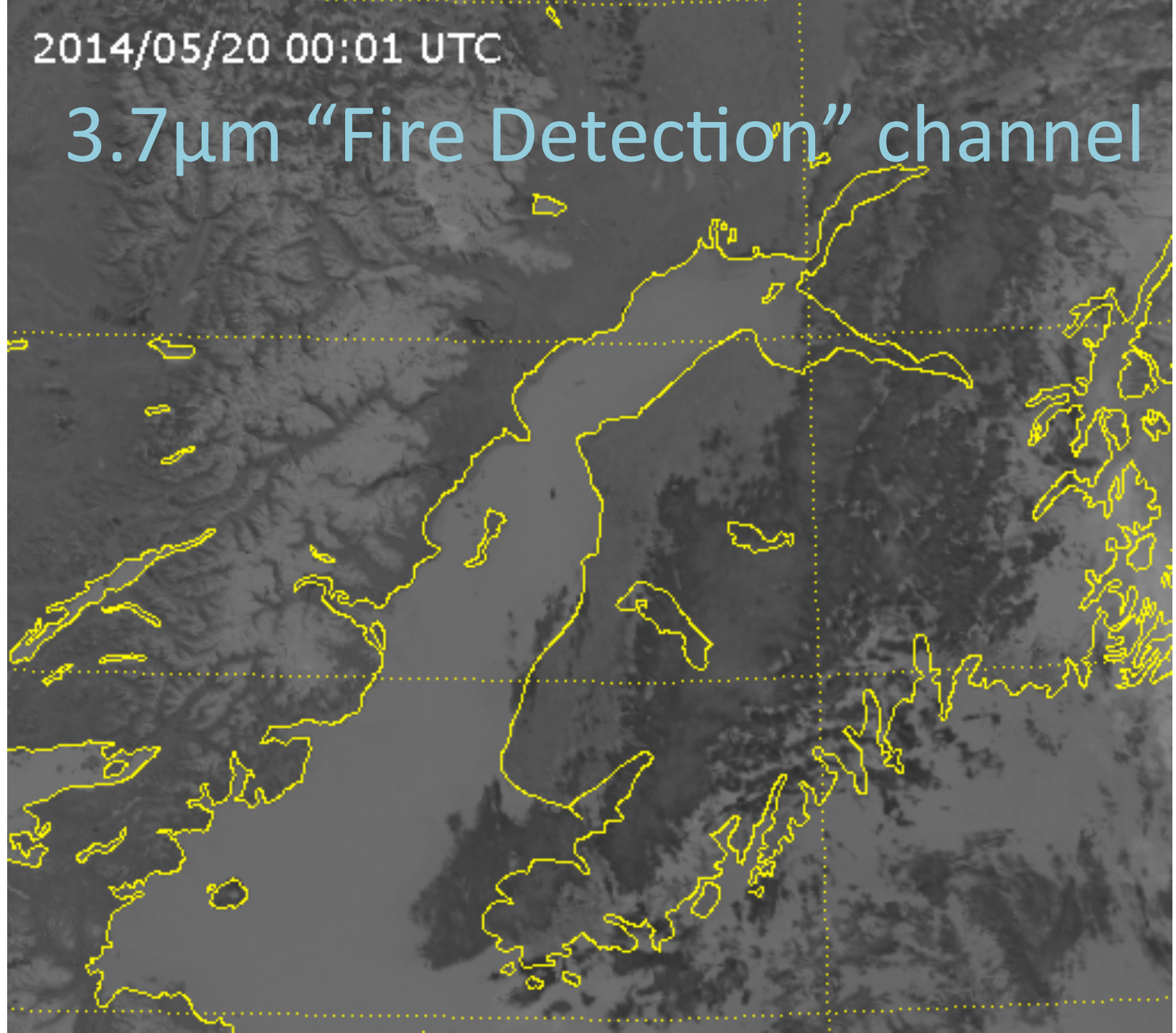






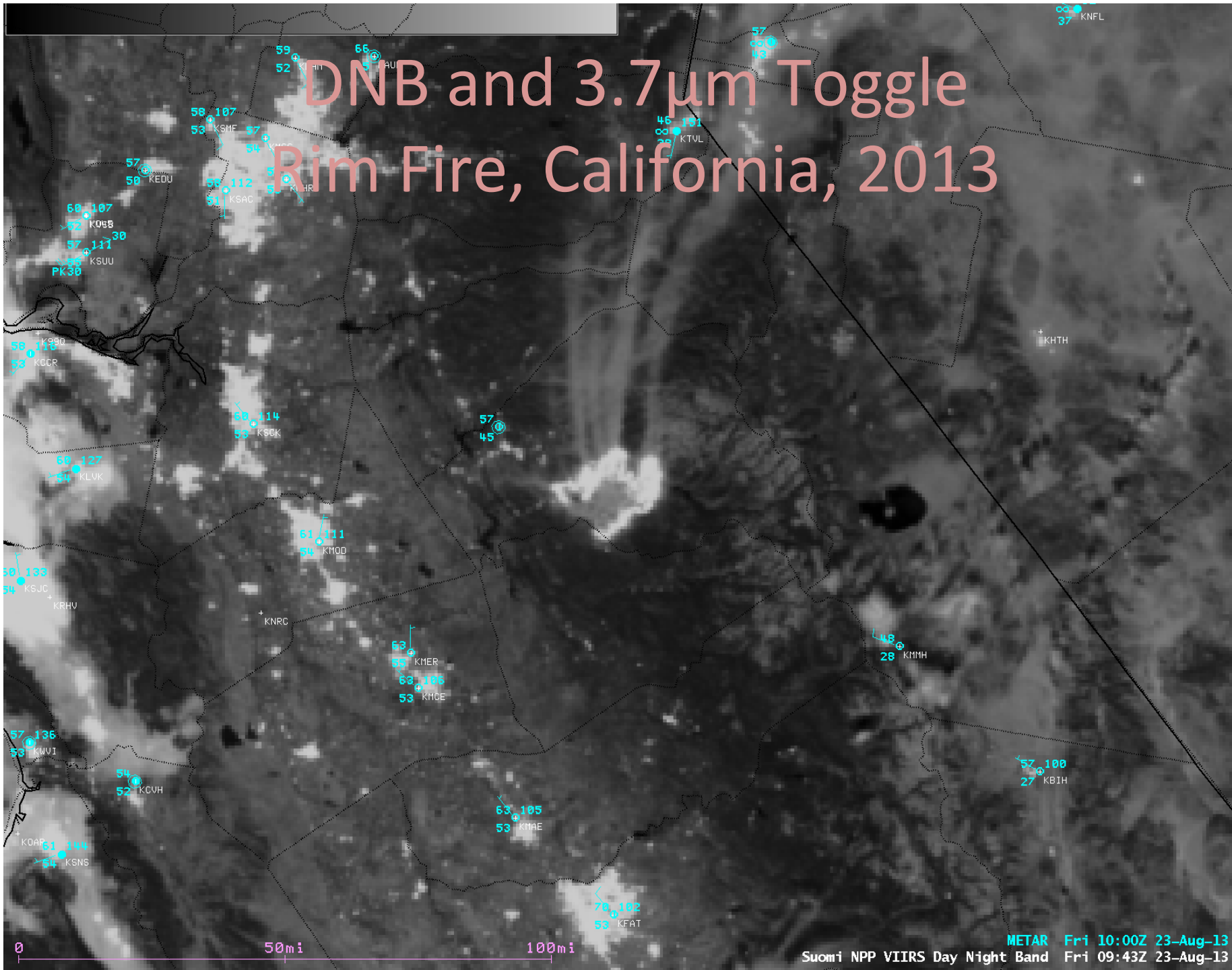
2014/05/20 00:01 UTC

3.7 μm “Fire Detection” channel

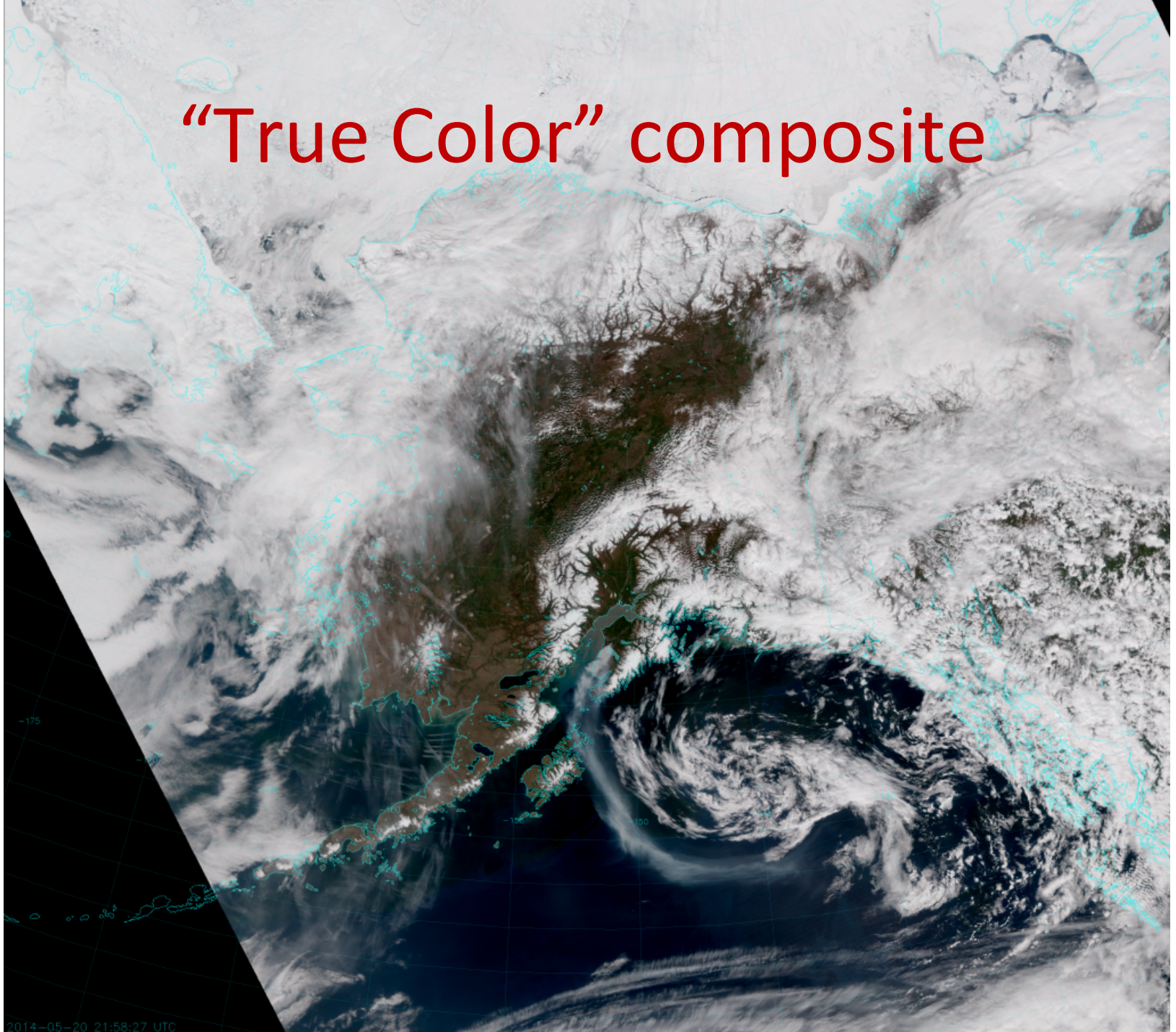


DNB and 3.7 μ m Toggle

Rim Fire, California, 2013

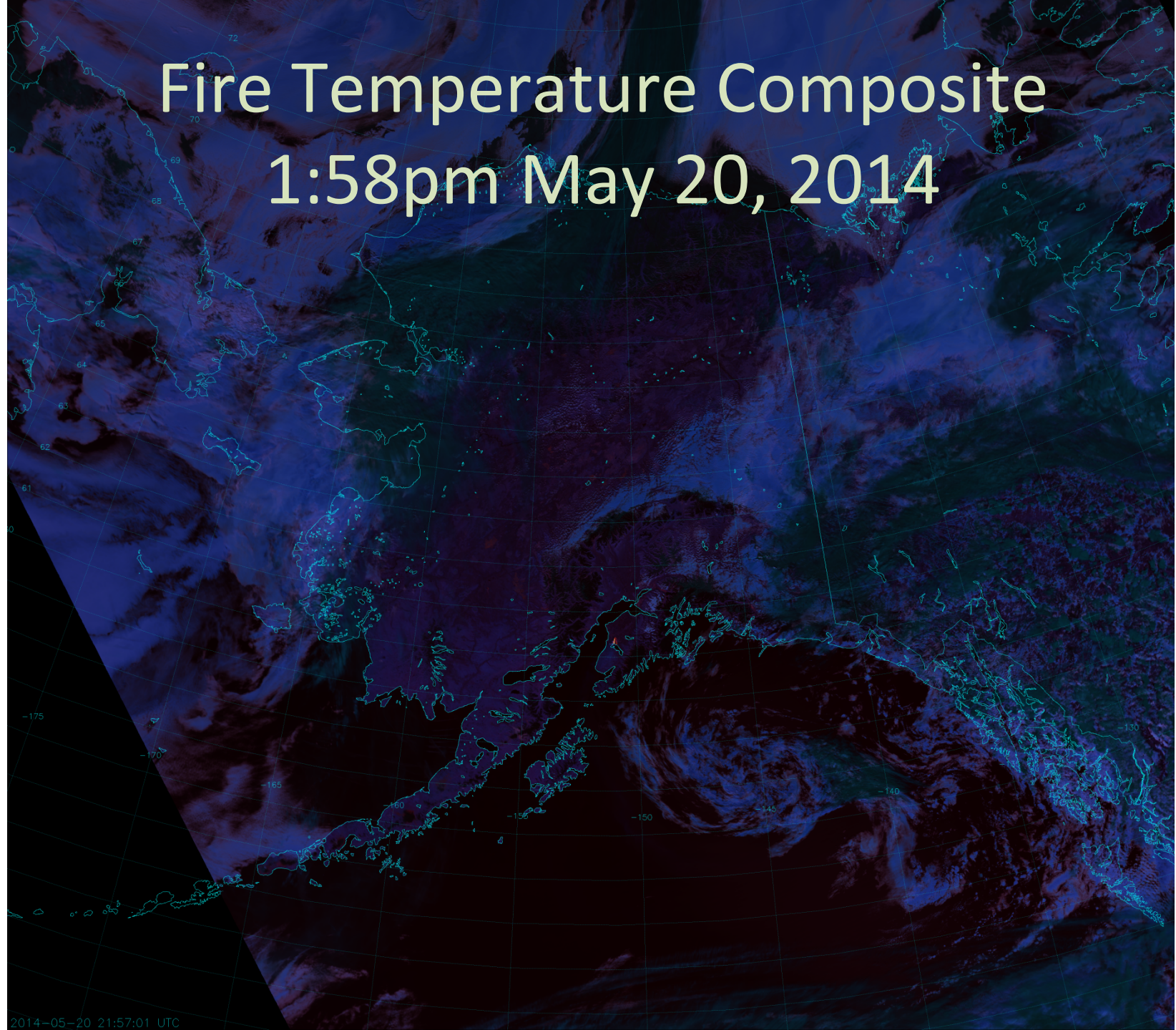


“True Color” composite



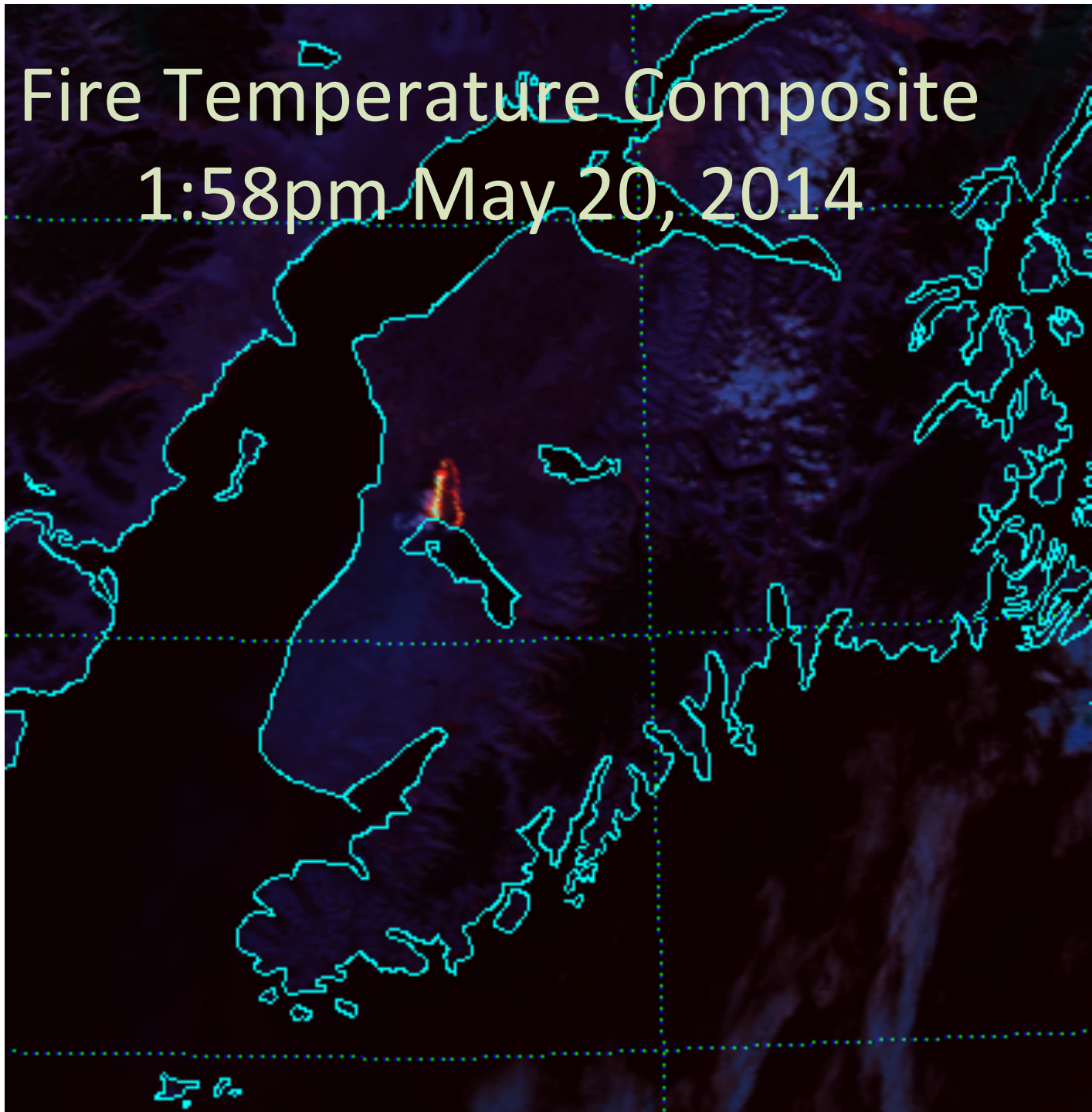
Fire Temperature Composite

1:58pm May 20, 2014

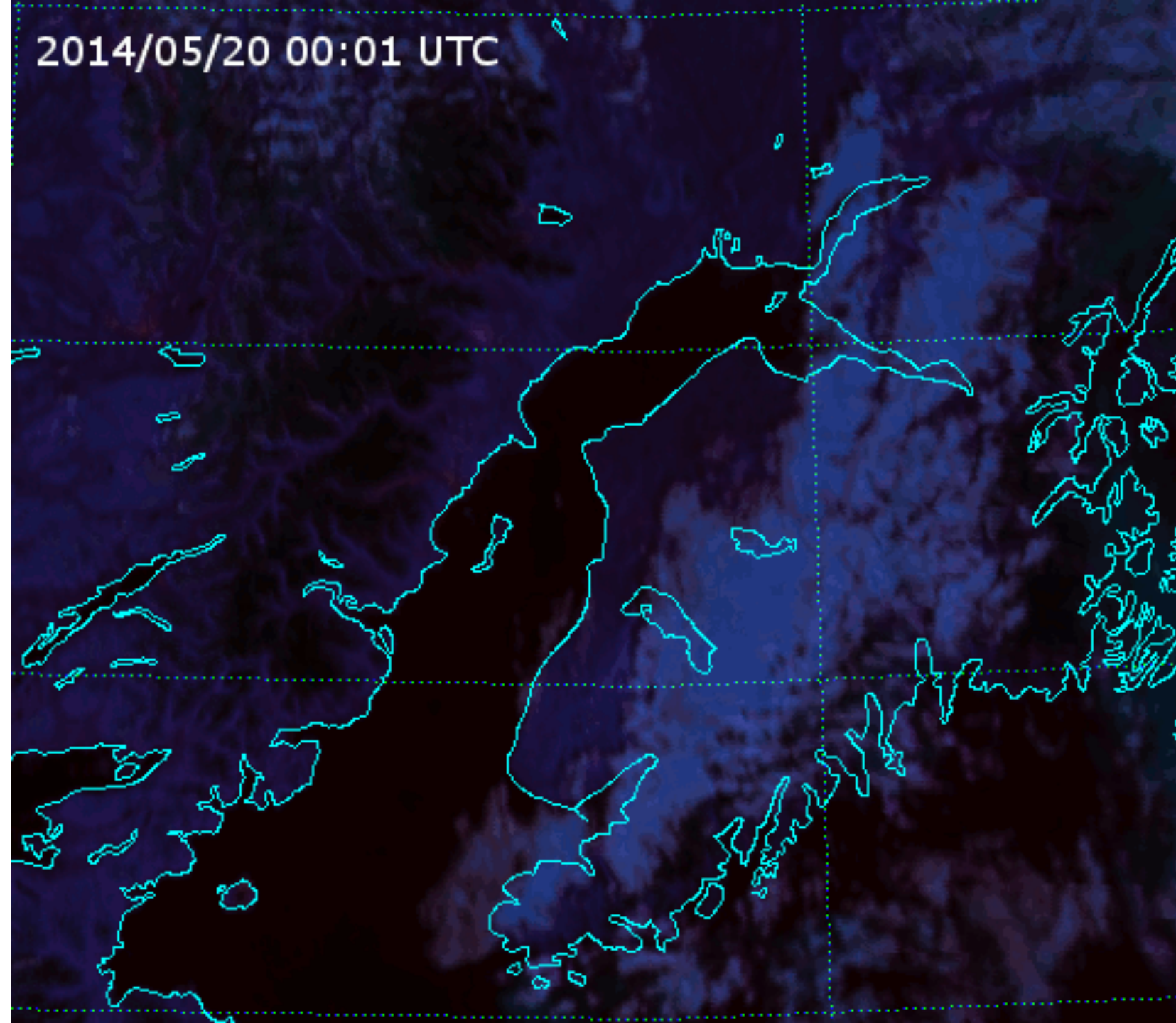


Fire Temperature Composite

1:58pm May 20, 2014



2014/05/20 00:01 UTC



Challenges For The Future

- How can we make this kind of satellite imagery available to AFS/AICC in 2015?
 - With minimal latency
 - Via a convenient/usable interface: web pages? GIS? AWIPS FX-NET?
 - Also as an archive to facilitate more thorough post-event analysis
- Easier said than done...much collaboration and work required

For More Information...

- [Funny River Satellite Imagery](#)
- [Rim Fire Satellite Imagery](#)
- [UAF GINA's "Puffin Feeder" website](#)
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